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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---------------------------------|-------------|----------------------|---------------------|------------------|
| 10/715,054 | 11/17/2003 | James Y. Cho | BP1745CON | 3663 |
| 34399 | 7590 | 09/17/2004 | EXAMINER | |
| GARLICK HARRISON & MARKISON LLP | | | HUYNH, KIM T | |
| P.O. BOX 160727 | | | | |
| AUSTIN, TX 78716-0727 | | | ART UNIT | PAPER NUMBER |
| | | | 2112 | |

DATE MAILED: 09/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/715,054

Applicant(s)

CHO ET AL.

Examiner

Kim T. Huynh

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 23-33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 23-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Priority

1. This application discloses and claims only subject matter disclosed in prior Application No. 09/680,523, filed 10/06/00, and names an inventor or inventors named in the prior application. Accordingly, this application may constitute a continuation or division. Should applicant desire to obtain the benefit of the filing date of the prior application, attention is directed to 35 U.S.C. 120 and 37 CFR 1.78.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 23-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Singh et al. (Pub No US2002/0147875) in view of Pettey et al. (US Patent 6,067,590)

As per claims 23, 29, Singh discloses an integrated circuit comprising:

- A bus; (fig.1, 117) [0032] and
- A plurality of devices coupled to the bus in which individual devices include respective agents coupled to the bus to receive a clock signal having a rising edge and a falling edge, the agents to drive a signal onto the bus responsive to one of the rising or falling edge and to sample the signal on the bus responsive to other of the falling or rising edge. [0095], [0068-0070]

Singh discloses all the limitations as above except a signal to be driven by one agent and sampled by a second agent during one clock cycle.

However, Pettey discloses transaction between bus agent 310 and 320, a signal is to be driven on the bus on clock cycle (t) and it sampled on rising edge of clock cycle(t). (col.5, line 45-col.6, line 7) Furthermore, Pettey discloses the second sampled bus signals being sampled during one phase of a clock period and a response is driven on the bus during a subsequent phase of the same clock period. (col.11, lines 32-58)

It would have been obvious to one having ordinary skills in the art at the time the invention was made to incorporate Pettey's teaching into Singh's system so as can be simplify the design of high speed PCI bus agents. (col.1, lines 45-57)

As per claims 24, 30, Singh discloses wherein the plurality of agents are disposed in the individual devices to perform as distributed agents in a distributed arbitration scheme. [0049]

As per claim 25, Singh discloses wherein the plurality of devices include a processor, cache memory, memory controller and input/output (I/O) interface, wherein agents within the processor, cache memory, memory controller and I/O interface drive and sample signals on the bus responsive to rising or falling edges of the clock signal. [0034]

As per claims 26, 31, Singh discloses wherein an agent to request arbitration drives the bus with an arbitration signal responsive to the one of the rising or

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falling edge used to drive the bus and the arbitration signal is to be sampled responsive to the other of the falling or rising edge used to sample the bus, wherein the arbitration signal is to be evaluated during the one clock cycle to allow a winner of the arbitration to drive the bus on a next clock cycle on the one of the rising or falling edge used to drive the bus. [0129-0131], [0141-0142]

As per claims 27, 32, Singh discloses wherein the agents to drive the bus responsive to the rising edge and to sample responsive to the falling edge.

[0068-0070]

As per claims 28, 33, Singh discloses wherein the agents to drive the bus responsive to the falling edge and to sample responsive to the rising edge.

[0068-0070]

Conclusion

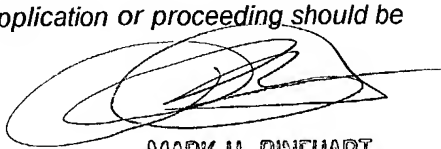
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (571)272-3635 or via e-mail addressed to [kim.huynh3@uspto.gov]. The examiner can normally be reached on M-F 9:00AM- 6:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Rinehart can be reached on (571)272-3632 or via e-mail addressed to [mark.rinehart@uspto.gov]. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9306 for regular communications and After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (571)272-2100.

Kim Huynh

September 15, 2004



MARK H. RINEHART
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100